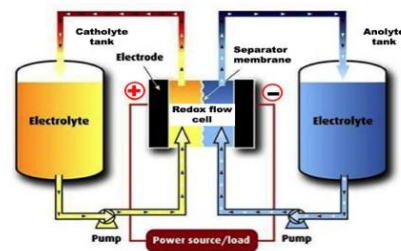




WattJoule
100 Jackson Road
Devens, MA 01434

WattJoule is developing a game-changing energy storage system that utilizes a liquid to store electrical energy — a liquid that is over 60% water, inexpensive to manufacture in large quantities, and is highly durable. And, since it’s based on water, it can never catch fire or explode.



- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Highly flexible and scalable ▪ More POWER = more stacks ▪ More ENERGY = larger tanks ▪ Fully reversible system | <ul style="list-style-type: none"> ▪ Highly durable: 10,000+ cycles ▪ Safe, nonflammable liquid ▪ Lowest CapEx & OpEx ▪ Largest application window |
|---|--|

To advance our flow battery performance, WattJoule wants to develop a model for the calculation of the energy loss due to a parasitic electrical current that develops in the electrolyte that is inside the battery. These currents are called shunt currents and are a result of the voltage difference between the positive and negative terminals and the fact that the electrolyte is an electrical conductor.

The company needs 1 engineer to work about 15 hours each week. Most of the work may be done on campus after an initial meeting with the company. Weekly reports and a summary presentation are required at the end of the project. The project may be extended at the discretion of the company.

The company needs the student to do a literature study on shunt currents, develop an intra-stack shunt current model, select computational tool and implement the model, perform calculations based on the existing geometries as a function of cell count and various other variables, define optimization criteria and optimize and repeat for an inter-stack shunt current model for multiple stack configurations



The project timeline begins in September and should be completed before December 2016. Students will be selected by a brief interview process with the company and should have the following qualifications.

You should be able to describe why you would be a good match for this paid consulting assignment.

EE/CHE Student:

1. Interest in the Project
2. Engineering Acuity
3. Basic Research and Organizational Skills
4. Ability to do Internet, Phone, and other basic Searches
5. Knowledge of electrical currents in resistive networks and current flows
6. Presentation Skills
7. Availability Minimum 10 Hrs./Week, Maximum 15 Hrs./Week

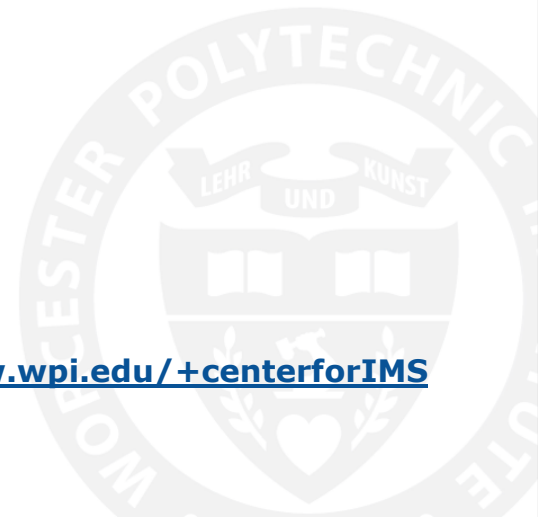
You will work in a team with the goal of providing actionable advice to the company.

If you are interested please email mic-admin@wpi.edu and include a letter explaining why you are a good candidate for one of these positions.

**Undergraduates earn \$14 to \$18/hour.
Initial estimate is 50 hours of work for each student.**

**Graduate/PhDs earn \$18 to \$22 per hour.
Initial estimate is for 50 hours for each student.**

This opportunity is open to all academically qualified students. A non-disclosure agreement is required.





WPI

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